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Attorneys for Plaintiffs

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF OREGON
PENDLETON DIVISION

STOP B2H COALITION, *et al.*

Case No. 2:19-cv-1822-SI

Plaintiffs,

v.

**DECLARATION OF
DR. CLAIT E. BRAUN**

BUREAU OF LAND MANAGEMENT, *et al.*,

Defendants

and

IDAHO POWER COMPANY and PACIFICORP,

Intervenor-Defendants

I, Clait E. Braun, declare:

1. My name is Clait E. Braun, and I reside in Tucson, Arizona. The statements below are based on my scientific training, personal knowledge, and experience, including my 40+ years of professional experience researching, studying, and managing Greater Sage-Grouse.

2. I have been retained by Plaintiffs Stop B2H Coalition, Greater Hells Canyon Council, and the three individual plaintiffs to describe and analyze new information related to Greater Sage-Grouse and the likely effects of the construction of the Boardman to Hemingway Transmission Line Project on populations of Greater Sage-Grouse that will be affected by the Project.

Education and Experience

3. A Biographical Sketch describing my education and professional experience, along with a list of scientific publications that I authored or co-authored through mid 2020, is attached as Exhibit 1.

4. My education includes a B.S. in Technical Agronomy from Kansas State University (1962), a M.S. in Wildlife Management from the University of Montana (1965), and a Ph.D. in Wildlife Biology from Colorado State University (1969). In addition, I have attended numerous short courses, workshops, and technical sessions to remain current in my professional work, and I am a Certified Wildlife Biologist.

5. I spent much of my professional career with the Colorado Division of Wildlife, where I was a Research Wildlife Scientist, Wildlife Research Leader, and Avian Program Manager for a thirty-year period (1969-99). In addition, I taught as an Instructor at the University of Montana (1963-65) and Colorado State University (1966-69), and have been an invited lecturer at more than 20 U.S. and Canadian universities. I also worked as a Soil Scientist in

Kansas (1961) and Montana (1964) for the USDA, Soil Conservation Service, and as a Research Technician with the Montana Department of Fish and Game (1965).

6. My field research was primarily on different species of birds, especially grouse (1965-2019). I specifically conducted and directed research on Sage-Grouse throughout Colorado from 1973 through 1999. My research on Sage-Grouse has caused me to review sagebrush steppe ecosystems (plants and animals) in areas of all western states and adjacent provinces. This research has led to more than 300 scientific publications, mostly in peer-reviewed journals. I am lead author or co-author on more than 70 articles on Sage-Grouse (including Greater Sage-Grouse and Gunnison Sage-Grouse) and more than 50 technical abstracts on Sage-Grouse in scientific publications.

7. I have remained closely involved in research and publications regarding Sage-Grouse and their habitats after my retirement from the Colorado Division of Wildlife. I served as Technical Editor for the recent “Monograph” on Greater Sage-Grouse. This 646-page “Monograph” contained 24 chapters arranged in 5 sections (I. Management and Conservation Status, II. Ecology of Greater Sage-Grouse, III. Ecology of Sagebrush, IV. Population Trends and Habitat Relationships, and V. Conservation and Management). I also coauthored two chapters. The “Monograph” was published in book form in 2011. S. T. Knick and J. W. Connelly, Editors, C. E. Braun, Technical Editor (2011), Greater Sage-Grouse: Ecology and Conservation of a Landscape Species and Its Habitats, *Studies in Avian Biology* No. 38. It is regarded as the primary resource on Sage-Grouse biology and habitat needs.

8. I also served as Editor of the Wilson Journal of Ornithology, a leading international ornithology journal during 2007-2012; and I am a principal in Grouse Inc., a consulting firm. I have presented expert testimony related to Sage-Grouse, both written and live,

in this Court and in other federal courts. I have been retained through my consulting firm to provide my review of certain issues and new information relevant to the effects of the Boardman to Hemingway Transmission Line on Sage-Grouse along the Project route based on my scientific expertise and knowledge, as discussed below.

9. I am closely familiar with research and scientific literature that addresses the habitat needs and biological requirements of Greater Sage-Grouse, and on the factors that cause or contribute to Sage-Grouse population losses or declines (including from habitat loss). I have also spent innumerable hours in the field studying Sage-Grouse populations and habitats over the last four decades, which I have used in my own publications addressing the relationships between Sage-Grouse and their habitats, as well as the management implications of these relationships. In addition, I supervised many graduate students conducting field research on Sage-Grouse during 1973-1999.

Familiarity with Baker County, Oregon

10. I am familiar with Baker County and the available information on the Baker Priority Area of Conservation (PAC) and the Cow Valley PAC. I am also familiar with the general area around Malheur National Wildlife Refuge and Steens Mountain in Harney County, Oregon, sagebrush-steppe habitat, and with Sage-Grouse habitats and recent population studies there. I worked with personnel of Oregon Department of Fish and Wildlife from 1993 through 2013 (most recently) when I traveled to this area in Oregon while training staff of the Oregon Department of Fish and Wildlife in techniques to assess population trends of Greater Sage-Grouse in Eastern Oregon. I am also familiar with the Oregon Department of Fish and Wildlife (ODFW) Sage-Grouse conservation strategies, including the current strategy from 2011 (Hagen 2011), and the current Bureau of Land Management Oregon Greater Sage-Grouse Approved Resource Management Plan Amendments (BLM 2015).

11. Baker County offers year-round Sage-Grouse habitat, including breeding (lek), nesting, brood-rearing, and winter habitat, with active leks and lek complexes. Given the decline of Sage-Grouse on a range-wide basis and threats to remaining Sage-Grouse populations and habitats, as documented in the scientific literature and the U.S. Fish and Wildlife Service's March 2010 ESA listing determination for Greater Sage-Grouse, 75 Fed. Reg. 13,910 (Mar. 23, 2010), I can say without reservation that protecting the remaining Sage-Grouse and their habitats in and around Baker County is critical for maintaining a viable, self-reproducing population in this isolated (from other populations of Sage-Grouse) area. This population is the furthest north in Oregon and has no known linkage other than to the closely allied Lookout Mountain Management Unit (which ODFW includes within the Baker PAC) and the Sumpter Management Unit (which ODFW includes within the Cow Valley PAC to the south). Thus, this group of Sage-Grouse is critically important to maintaining the genetic integrity of this population to prevent further decline of the species and possible Endangered Species Act listing.

12. I have reviewed relevant portions of the November 2016 Final Environmental Impact Statement for the Boardman to Hemingway Transmission Line Project and related Appendices and maps relevant to Sage-Grouse, the November 2017 Record of Decision for the Project, the Report on the 2012 Greater Sage-Grouse Aerial Surveys, the January 2012 Resource Report 5—Wildlife prepared by Tetra Tech for Idaho Power Company, lek count data for the Baker PAC from 2008 to 2018 (summarized from the ODFW lek count data spreadsheet for 1980 to 2018 that was obtained by the plaintiffs and which I also reviewed), and a map showing the proximity of leks in the Baker PAC to the Selected Alternative route for the Boardman to Hemingway Transmission Line.

13. I have also reviewed the Oregon Department of Fish & Wildlife Oregon Greater Sage-Grouse Population Monitoring Reports for 2017, 2018, and 2019, the October 2017 Baker Priority Area of Conservation Comprehensive Sage-Grouse Threat Reduction Plan, scientific studies prepared since November 2016 that describe the likely harm to Sage-Grouse from transmission lines as listed in the references below, and the March 2020 BLM Information Bulletin regarding Status of 2019 Oregon Greater Sage-Grouse Adaptive Management Triggers. I have also corresponded with current and retired personnel of the ODFW about specifics relating to Greater Sage-Grouse in Baker County as well as the closely related populations of Greater Sage-Grouse in the Lookout Mountain and Sumpter Management Units. I have also reviewed relevant scientific literature concerning responses of Greater Sage-Grouse to disturbance and power transmission lines.

Significant New Information Regarding the Oregon Statewide Sage-Grouse Populations

14. The FEIS does not provide any discussion of the status of Greater Sage-Grouse in Oregon, even though ODFW collects information on population status from counts of males on leks and also from collection of Greater Sage-Grouse wings of birds harvested by hunters (Braun et al. 2015). The wing collection program has been in existence for about 25 years. Counts of males on leks, while incomplete for many leks prior to 2013, have been improved (starting in 2013) when efforts were increased to check lek activity and count males on as many leks as possible. Thus, substantial data on population status are available for Hunt Units, BLM Districts, and/or Resource Areas. The FEIS fails to discuss the available data on population status of Greater Sage-Grouse in Oregon, and also in the specific areas that will be impacted by development of the proposed Boardman to Hemingway Transmission Line under consideration.

15. Data available from ODFW on the status of Sage-Grouse in Oregon reveals the overall population size has markedly decreased and become more fragmented. This fragmentation and decreased abundance will be further exacerbated by any reduction in available habitat in the Baker Resource Area.

16. Thus, it is important to review and understand how the overall Oregon Sage-Grouse population is responding to decreases in abundance as a result of ongoing changes within Oregon and to what extent a project such as the B2H line could affect even a single PAC, especially one isolated at the northern extent of the distribution of Sage-Grouse in Oregon.

17. It appears that BLM had available and reviewed lek count data for the entire state of Oregon through 2014. These tables appear in the record at AR 131922–51. New lek count data and summary reports have become available since then. The available report on data (Foster 2019) on the overall status of Greater Sage-Grouse in Oregon indicates the population has been decreasing. ODFW and partners completed 1,733 ground counts and 4 aerial counts in 2019. Surveys were conducted at 755 leks comprising 489 lek complexes. Of the 1,180 individual leks, and 796 lek complexes known to exist or have existed in the state, 64.0% and 61.4%, respectively, were surveyed during 2019. The estimated spring Greater Sage-Grouse population in Oregon during 2019 was 13,827 individuals (95% CI: 12,799 – 14,855 individuals), a 24.9% decline from 2018 (2018 Estimate = 18,420 individuals). This represents the third consecutive year of statewide population decline since 2016, and the lowest estimated Sage-Grouse population in Oregon during the analysis period of 1980–2019. Exhibit 2 (attached) is a true and correct copy of the 2019 Foster report.

18. The Oregon statewide population during 2019 was 52.9% below the 2003 baseline population estimate of 29,237 individuals. Data collected since the 2011 Oregon Greater

Sage-Grouse Conservation Assessment and Strategy suggests a statistically significant decline in the annual average number of males counted per active complex of -0.2 birds per year since 1980 (Multiple $R^2 = 0.17$, $p\text{-value} < 0.01$). Reasons for the declines are not thoroughly explored but are likely related to large wildfires, drought, west Nile virus, and poor range conditions. The Baker District/Resource Area, which includes the Baker PAC and 12 inactive leks in the Cow Valley PAC, constitutes 3.9% of the overall statewide estimated population of Greater Sage-Grouse.

19. The estimated size of the Greater Sage-Grouse population in the Baker Resource Area increased slightly in 2019 (541 vs. 429 in 2018). The estimate for this area in 2014 was 402 individual Greater Sage-Grouse. This area is relatively small and the size of the estimated spring population is not expected to markedly increase. The long term (1996-2019) trend in number of males per active lek is down and has decreased from 24 in 2002 to 11 in 2019. Hunting of Greater Sage-Grouse is no longer permitted in this area.

20. The Cow Valley PAC in southern Baker County and northern Malheur County had not been consistently surveyed until 2015. Estimated number of males counted per active lek was 96 in 2018 while it was 99 in 2019. The previous highest number of males recorded for this PAC was 55 in 2011. However, data collection has been too inconsistent for analysis but the Cow Valley PAC may be the link to the larger population in the Vale District.

21. The Baker PAC is presently small (3.9% of the overall statewide estimated population). Its habitat is limited to the north and possibly also south of I-84. Thus, possibility of growth of this population is exceedingly small. It represents the northern most extent of the range of Greater Sage-Grouse in Oregon with no linkage to the west and north and most likely to the south and east. Permanent loss of this small population is likely and this loss will reduce

population redundancy and retention of possible genetic traits. Any loss of genetic characteristics from this population is not replaceable. This loss will support possible listing of Greater Sage-Grouse in Oregon under the Endangered Species Act.

22. New lek count data for the Baker PAC since 2014 shows that only a few leks have had male attendance during the past five years. Attached as Exhibit 3 is ODFW lek count data for the leks in the Baker PAC from 2015 to 2018 that was provided to me by plaintiffs' counsel, with the same lek IDs and names as are in the data in the record at AR 131922–51, with the exception that the Guzzler # 2 lek that is shown in Exhibit 3 does not appear in the data set that BLM had available in the record. The yellow-highlighted lek complexes are ones within four miles of the selected transmission line route, and lek complexes that are in bold font are ones that had male attendance in 2018.

23. Exhibit 4 is a map of the selected alternative route showing the seven leks that were active in 2018, including leks within four miles of the route, that was provided to me by plaintiffs' counsel. The Big Creek (27 males in 2017) and Guzzler # 2 (7 males in 2017) leks appear at the top of the map. These two leks had a total of 34 males in 2017. This was 33% of the total males counted in the Baker PAC in 2017. There were 24 males counted in the 2018 data set for the Big Creek lek but only 5 at the Guzzler # 2 lek (total = 29 males) or 31.5% of the total males counted in the Baker PAC in 2018. A third active lek, Virtue # 2, east of Baker City, lies almost exactly four miles from the transmission line route. There were 16 males counted in the 2018 data set for the Virtue # 2 lek, and 14 males counted there in 2017. All combined, these three active leks accounted for 48 of the 102 males counted in the Baker PAC in 2017 (47%), and 45 of the 92 males counted in the Baker PAC in 2018 (48.9%). Based on the data from 2017

and 2018, a significant proportion of the total males counted in the Baker PAC are likely to be negatively impacted by the proposed transmission line as described in paragraphs 27–32 below.

24. Data on the actual number of Sage-Grouse in the Baker Resource Area document the changes that have occurred over time as measured by the decrease of 75.4% in male attendance from the 2003 baseline reported in the 2011 Oregon Greater Sage-Grouse Conservation Assessment and Strategy. Examination of Figure 5 in the 2019 Oregon Greater Sage-Grouse Population Monitoring Annual Report (Foster 2019) suggests the decrease in Males/Active Lek since 1996 to 2019 is over 50%. The size of the present population in the Baker Resource Area is not precisely known, although ODFW estimated it at 541 in 2019, but extrapolation from the number of active leks and number of males counted on leks suggests the population may be only 200-300 individuals (total for both males and females) per Braun et al. 2015. The most likely explanation for this significant decrease relates to changes in the amount and quality of the remaining sagebrush-dominated habitats and changes in the overall landscape (roads, power lines, etc.). Any further degradation of these habitats will further exacerbate the changes and loss of critical habitats.

25. It is the actual habitats that Sage-Grouse use during each of the major periods (breeding, nesting, brood rearing, and winter) that are important to consider. Designation of habitats as priority habitat management areas (PHMA) or general habitat management areas (GHMA) are less important than the number and dispersion of active leks, and habitats useful for nesting, brood rearing, and foraging on live sagebrush in winter. How powerlines impact Sage-Grouse is through their avoidance of overhead lines, poles and structures, noise, and roads. I have strong professional questions about the overall value of the PHMA and GHMA

designations used throughout the FEIS as they appear to be attempts to define sagebrush habitats without understanding how Sage-Grouse use habitats.

26. There are four major periods in each year that are critical to maintaining viable Sage-Grouse populations. My experience is that winter is the most critical period for all Sage-Grouse in all areas where they occur. If they do not make it through the winter in good body condition (and they will eat any species of available sagebrush in winter even though they may prefer to eat *wyomingensis*), you will not be able to support a population. It does not matter in winter how sagebrush-dominated sites are classified as either PHMA or GHMA. All Sage-Grouse in winter eat (and use for cover) any sagebrush that is not covered by snow. The other important periods are breeding (usually an open area in live sagebrush) and nesting (live sagebrush mixed with native grasses and forbs). Sagebrush cover in summer is used as it is available and use is not dependent upon classification as PHMA or GHMA. They can even live in summer in areas with no or limited amounts of any sagebrush. The best argument for classifying sagebrush-dominated rangelands is that nesting habitat may be limited more by ground cover and sagebrush cover and aspect (north and east vs. south and west facing slopes). Some of the designations such as PHMA and GHMA seem to be creations by people who do not eat sagebrush or depend on it for most of their life processes.

Information Regarding Effects of Transmission Lines on Sage-Grouse

27. Studies on the effects of development such as noise (i.e., Blickley et al. 2012) and power lines (i.e., Gibson et al. 2018) support field observations (Braun 1998 for example and others) that Greater Sage-Grouse are negatively affected by power lines of multiple types, repetitive noise, and predators. The most comprehensive study of the responses of Sage-Grouse is that of Gibson et al. (2018). These authors documented lower recruitment to leks closest to

power lines, lower vital rates, and population declines. They noted positive effects on abundance of Common Ravens near power lines which altered Sage-Grouse distribution and use at variable distances from power lines. Their data may be unique because of the length (299 km) of the power line and length of their study (10 years). But their data are clear: transmission lines negatively affect Sage-Grouse. Blickley et al. (2012) studied the effect of repetitious noise on activities of male Greater Sage-Grouse during the breeding season. They demonstrated that noise had negative effects on breeding Sage-Grouse. This finding affected the distance development (and noise thereof) should be from leks and resulted in distance avoidance recommendations of 4 to 6 miles from active leks. Gibson et al. (2018) were more specific as they reported the effects of power lines on Sage-Grouse extended 2.5 km (1.5 miles) to 12.5 km (7.7 miles) from the power line. Raven abundance was positively associated with power lines (nesting and perch sites). Both of these studies relate directly to the proposed Boardman to Hemingway Transmission Line Project. The Blickley and Braun studies cited above are in the BLM record, but the Gibson et al. (2018) study post-dates the FEIS, and a true and correct copy of this latter study is attached as Exhibit 5.

28. The Boardman to Hemingway Transmission Line will cause disturbances as well as present a physical barrier to use of areas currently used by Sage-Grouse from the Big Creek, Guzzler # 2, and Virtue # 2 leks. Sage-Grouse truly use sagebrush habitats at a landscape scale. Thus, linkages among sagebrush landscapes (i.e., connectivity) are critical. Gibson et al. (2018) clearly found that power transmission lines affected how Sage-Grouse use habitats at distances up to 12.5 km (7.7 miles) from a power transmission line. It is reasonably predictable the B2H transmission line will negatively affect Sage-Grouse use of leks over distances far greater than 4 to 6 miles in the Baker Resource Area. Some leks in the Baker Resource Area will be

abandoned. The chosen distance of 3.1 miles (page 3-421 and elsewhere) does not represent the present science. Loss of any active leks in the Baker Resource Area coupled with the low apparent size of this population is highly likely to lead to the extirpation of the northern most population of Sage-Grouse in Oregon.

29. The Baker population has a high likelihood of extirpation, especially if the power line attracts ravens and is avoided by Sage-Grouse. The apparent proximity of the power line to the remaining leks used by this small population of Sage-Grouse is strongly negative for persistence of this population of Sage-Grouse.

30. The proposed Transmission Line will decrease connectivity of the remaining Sage-Grouse over time and will likely also be negative for the Sage-Grouse that presently use the slightly more distant Big Creek, Guzzler # 2, and Virtue # 2 leks as Gibson et al. (2018) clearly identify raven attraction to power lines which subsequently increases Sage-Grouse avoidance of areas up to 12.5 km (7.77 miles) from power lines. It is probable that, over time, the Big Creek, Guzzler # 2, and Virtue # 2 leks will also be abandoned as a result of the indirect effects of the power line.

31. It is possible the present Baker Resource Area Sage-Grouse population may persist after construction of the Transmission Line for up to 5-10 years as leks rarely disappear in a short period of years, unless physically disturbed. The pattern that I have observed is a gradual loss of recruitment of yearling males and all females. Given the present trajectory of the overall Sage-Grouse population in Oregon, one cannot predict that most of the smaller populations in the State will persist. This would likely lead to listing of Sage-Grouse in Oregon as Threatened or Endangered, at least by the State and probably by the USFWS. Development of the power transmission line will not improve the status of Sage-Grouse in Oregon.

Conclusion

32. The B2H Transmission Line, as presented in the FEIS, is predicted to cause some active Sage-Grouse leks to be abandoned in the Baker Resource Area (increase in raven use and increased in affected distance up to 12.5 km) as described by the new information from the Gibson et al. (2018) study and the high proportion of the remaining population whose leks would be within four miles of the Transmission Line based on the 2018 ODFW lek count data. Greater Sage-Grouse in Baker County specifically will be affected and can be reasonably expected to no longer exist in this immediate area as a breeding species. I have repeatedly seen similar examples. None of the attempts to resolve issues to benefit Sage-Grouse have been successful over time. At best, all examples just delay the outcome. I have watched and tried to prevent disappearance of local populations of Sage-Grouse for 30 years. At best, my efforts and those of others have only slowed the process.

I declare under penalty of perjury pursuant to the laws of the United States that the foregoing is true and correct to the best of my knowledge.

Executed this 9th day of August 2020, at Tucson, Arizona.

/s/ _____ *Clait E. Braun* _____

Clait E. Braun

I reviewed the following materials and publications in preparing this Declaration.

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